DN2800MT

User Manual

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(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

CALIFORNIA, USA ONLY

The Lithium battery adopted on this motherboard contains Perchlorate, a toxic substance controlled in Perchlorate Best Management Practices (BMP) regulations passed by the California Legislature. When you discard the Lithium battery in California, USA, please follow the related regulations in advance.
"Perchlorate Material-special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate"

ASRock Website: http://www.asrock.com

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Chapter 1: Introduction

Thank you for purchasing ASRock ***DN2800MT*** motherboard, a reliable motherboard produced under ASRock's consistently stringent quality control. It delivers excellent performance with robust design conforming to ASRock's commitment to quality and endurance.

In this manual, chapter 1 and 2 contain introduction of the motherboard and step-by-step guide to the hardware installation. Chapter 3 and 4 contain the configuration guide to BIOS setup and information of the Support CD.

Because the motherboard specifications and the BIOS software might be updated, the content of this manual will be subject to change without notice. In case any modifications of this manual occur, the updated version will be available on ASRock website without further notice. You may find the latest VGA cards and CPU support lists on ASRock website as well. ASRock website http://www.asrock.com

If you require technical support related to this motherboard, please visit our website for specific information about the model you are using. www.asrock.com/support/index.asp

1.1 Package Contents

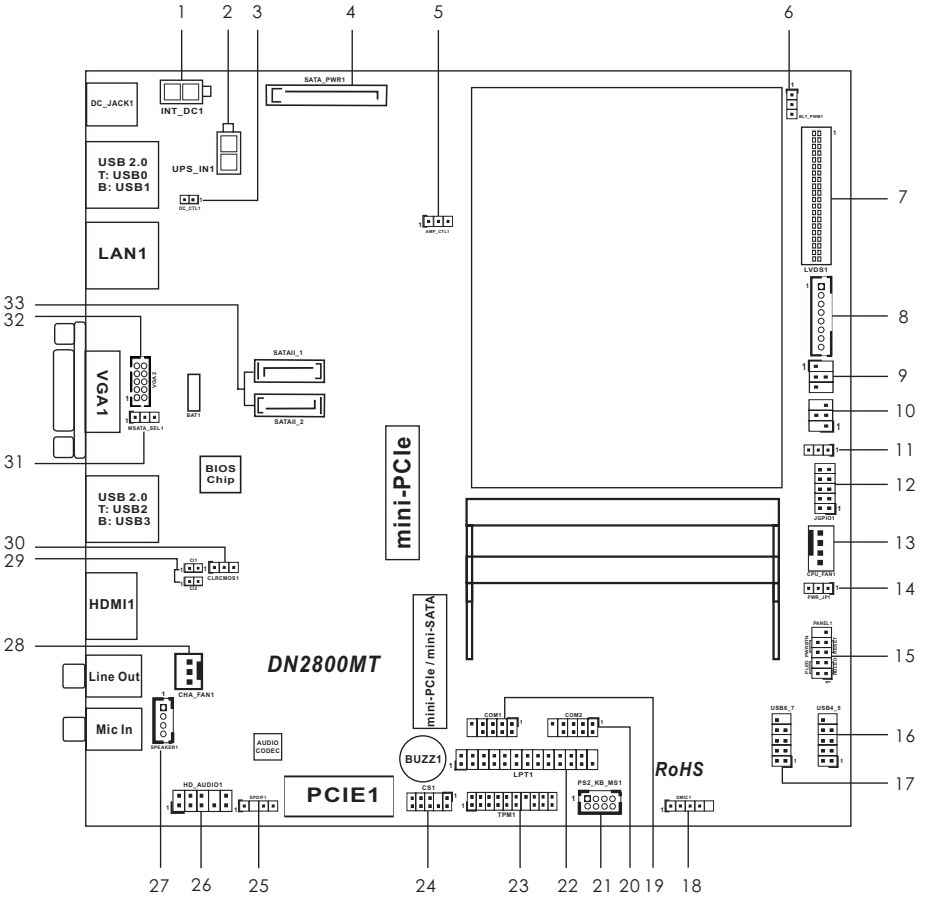
ASRock ***DN2800MT*** Motherboard
(Mini-ITX Form Factor: 6.7-in x 6.7-in, 17.0 cm x 17.0 cm)
ASRock ***DN2800MT*** Driver CD
ASRock ***DN2800MT*** Jumper setting instruction
1 x I/O Panel Shield

1.2 Specifications

Form Factor	Dimensions	Mini-ITX (6.7-in x 6.7-in)
Processor System	CPU	- Intel® Dual-Core Atom™ CedarView Processor N2800 - Supports Hyper-Threading Technology
	Core Number	2
	Max Speed	N2800: 1.86 GHz
	L3 Cache	N/A
	Chipset	NM10
	BIOS	UEFI
Expansion Slot	PCI	0
	Mini-PCIe	1 (Half Size) + 1 (Full Size, shared with m-SATA)
	mSATA	1 (share with mini-PCIe)
	PCIe	1 (x1)
	CFast Card Socket	0
Memory	Technology	Single Channel DDR3 800/1066 MHz SDRAM
	Max.	4GB
	Socket	2 x SODIMM
Graphics	Controller	Intel® PowerVR SGX545, Support Directx9 compliant Pixel Shader v3.0 and OGL 3.0
	VRAM	Shared Memory
	VGA	Supports max. resolution 1920 x 1200
	LVDS	Dual channel 24-bit, max resolution 1920 x 1200@60Hz
	HDMI	1
	DVI	No
	DisplayPort	No
	Multi Display	Yes (Dual Display)
Ethernet	Ethernet	10/100/1000 Mbps
	Controller	GbE LAN: 1 x Intel® 82574L
	Connector	1 x RJ-45
SATA	Max Data Transfer Rate	SATA2 (3.0Gb/s)
Rear I/O	VGA	1
	DVI	0
	HDMI	1

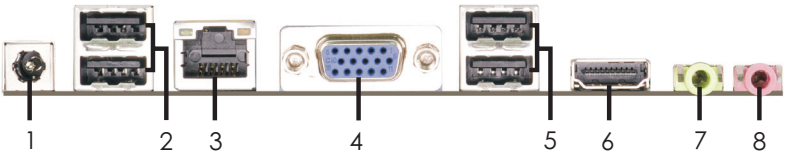
	DisplayPort	0
	Ethernet	1
	USB	4
	Audio	2 (Mic-In, Line-Out)
	Serial	0
	PS/2	0
Internal Connector	USB	4 (USB 2.0 compliant)
	LVDS/ Inverter	1/1
	VGA	1 (shared with rear I/O VGA COM)
	Serial	2 (RS232) / 4 from TPM header
	SATA	2 x SATA2 (3.0Gb/s)
	mPCIe	1 + 1 shared
	Parallel	1
	mSATA	1 shared
	IrDA	0
	GPIO 8-bit	4 in / 4 out
	SATA PWR Output Con	1
	Speaker Header	1
Watchdog Timer	Output	From Super I/O to drag RESETCON#
	Interval	256 Segments, 0,1,2…255 Sec/Min
Power Requirements	Input PWR	9~19V DC-In (DC-Jack or 2-pin PWR Con)
	Power On	AT/ATX Supported -AT : Directly PWR on as power input ready -ATX : Press button to PWR on after power input ready
Environment	Temperature	0ºC – 60ºC

1.3 Motherboard Layout



1 : 2-pin ATX Power Input/Output Connector
2 : 2-pin UPS Module Power Input Connector
3 : DC_CTL1
4 : SATA Power Output Connector
5 : AMP_CTL1
6 : BLT_PWM1
7 : LVDS Panel Connector
8 : BLT_CTL1
9 : PNL_PWR1
10 : BKT_PWR1
11 : Digital Input / Output Power Select
12 : Digital Input / Output Pin Header
13 : 4-Pin CPU FAN Connector
14 : ATX/AT mode Selection
15 : System Panel Header
16 : USB2.0 Header (USB4_5)
17 : USB2.0 Header (USB6_7)
18 : DMIC1
19 : RS-232 Port 4 Pin Header (COM1)
20 : RS-232 Port 4 Pin Header (COM2)
21 : PS2_KB_MS1
22 : Printer Port Header
23 : TPM Header
24 : CS1
25 : SPDIF1
26 : Front Panel Audio Header
27 : 3W Audio AMP Output Wafer
28 : 3-Pin Chassis FAN Connector
29 : Chassis Intrusion Headers (CI1, CI2)
30 : Clear CMOS Header
31 : MSATA_SEL1
32 : VGA2
33 : SATA2 Connectors (SATAII_1, SATAII_2)

1.4 I/O Panel



1	DC Jack (DC_JACK1)	5	USB 2.0 Ports (USB2_3)
2	USB 2.0 Ports (USB0_1)	6	HDMI Port (HDMI1)
* 3	LAN RJ-45 Port (LAN1)	7	Line out (Lime)
4	VGA Port (VGA1)	8	Microphone (Pink)

* There are two LED next to the LAN port. Please refer to the table below for the LAN port LED indications.

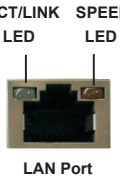
LAN Port LED Indications

Activity/Link LED

Status	Description
Off	No Link
Blinking	Data Activity
On	Link

SPEED LED

Status	Description
Off	10Mbps connection
Orange	100Mbps connection
Green	1Gbps connection



Chapter 2: Installation

This is a Mini-ITX form factor (6.7" x 6.7", 17.0 x 17.0 cm) motherboard. Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so may cause physical injuries to you and damages to motherboard components.

2.1 Screw Holes

Place screws into the holes to secure the motherboard to the chassis.

Do not over-tighten the screws! Doing so may damage the motherboard.

2.2 Pre-installation Precautions

Take note of the following precautions before you install motherboard components or change any motherboard settings.

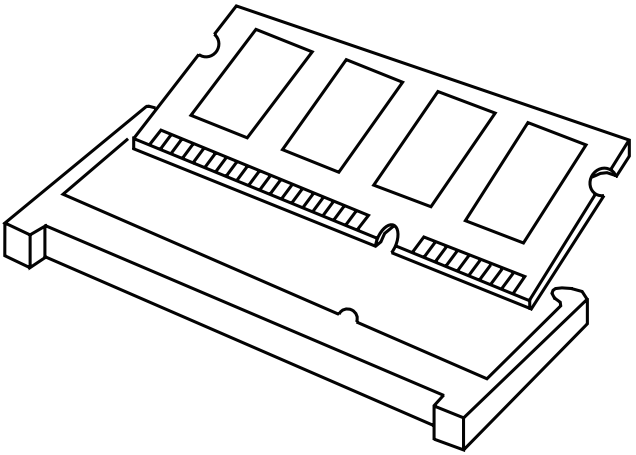
1. Unplug the power cord from the wall socket before touching any component.
2. To avoid damaging the motherboard components due to static electricity, NEVER place your motherboard directly on the carpet or the like. Also remember to use a grounded wrist strap or touch a safety grounded object before you handle components.
3. Hold components by the edges and do not touch the ICs.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that comes with the component.

Before you install or remove any component, ensure that the power is switched off or the power cord is detached from the power supply.
Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

2.3 Installation of Memory Modules (SO-DIMM)

This motherboard provides two 204-pin DDR3 (Double Data Rate 3) SO-DIMM slots.

Step 1. Align a DIMM on the slot such that the notch on the DIMM matches the break on the slot.



The DIMM only fits in one correct orientation. It will cause permanent damage to the motherboard and the DIMM if you force the DIMM into the slot at incorrect orientation.

Step 2. Firmly insert the DIMM into the slot until the retaining clips at both ends fully snap back in place and the DIMM is properly seated.

2.4 Expansion Slots (PCI Express, mini-PCIe and mini-PCIe/ mini-SATA Slots)

There is 1 PCI Express slot, 1 mini-PCIe slot and 1 mini-PCIe/mini-SATA slot on this motherboard.

PCIE slot: PCIE1 (PCIE x1 slot) is used for PCI Express x1 lane width graphics cards.

mini-PCIe slot:

MINI_PCIE2 (mini-PCIe slot; half size) is used for PCI Express mini cards.

mini-PCIe/mini-SATA slot:

MINI_PCIE1 (mini-PCIe/mini-SATA slot; full size) is used for PCI Express mini cards or mSATA cards.

Installing an expansion card

Step 1. Before installing the expansion card, please make sure that the power supply is switched off or the power cord is unplugged. Please read the documentation of the expansion card and make necessary hardware settings for the card before you start the installation.

Step 2. Remove the system unit cover (if your motherboard is already installed in a chassis).

Step 3. Remove the bracket facing the slot that you intend to use. Keep the screws for later use.

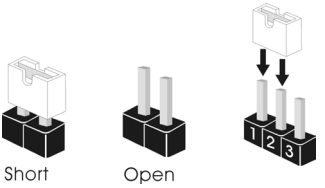
Step 4. Align the card connector with the slot and press firmly until the card is completely seated on the slot.

Step 5. Fasten the card to the chassis with screws.

Step 6. Replace the system cover.

2.5 Jumpers Setup

The illustration shows how jumpers are setup. When the jumper cap is placed on pins, the jumper is “Short”. If no jumper cap is placed on pins, the jumper is “Open”. The illustration shows a 3-pin jumper whose pin1 and pin2 are “Short” when jumper cap is placed on these 2 pins.



Jumper	Setting	Description
Clear CMOS Jumper (3-pin CLRCMOS1) (see p.8, No. 30)	1_2 Default 2_3 Clear CMOS	

Note: CLRCMOS1 allows you to clear the data in CMOS. To clear and reset the system parameters to default setup, please turn off the computer and unplug the power cord from the power supply. After waiting for 15 seconds, use a jumper cap to short pin2 and pin3 on CLRCMOS1 for 5 seconds. However, please do not clear the CMOS right after you update the BIOS. If you need to clear the CMOS when you just finish updating the BIOS, you must boot up the system first, and then shut it down before you do the clear-CMOS action. Please be noted that the password, date, time, user default profile and MAC address will be cleared only if the CMOS battery is removed.

AMP_CTL1
(3-pin AMP_CTL1)
(see p.8, No. 5)

PIN	Signal Name
1	GPIO_VOL_UP
2	GND
3	GPIO_VOL_DW

BLT_PWM1
(3-pin BLT_PWM1)
(see p.8, No. 6)

1-2 : +3V
2-3 : +5V

BLT_CTL1
(8-pin BLT_CLT1)
(see p.8, No. 8)

PIN	Signal Name
1	CON_LBKLT_EN
2	CON_LBKLT_CTL
3	LCD_BLT_VCC
4	LCD_BLT_VCC
5	GND
6	GND
7	GPIO_BLT_UP
8	GPIO_BLT_DW

DC_CLT1

(2-pin DC_CTL1)

(see p.8, No. 3)

Power Input Voltage > +12V: Short

Power Input Voltage ≤ +12V: Open

Panel Power Selection

(4-pin PNL_PWR1)

(see p.8, No. 9)

PIN	Signal Name
1	+3.3V
2	NC
3	LCD_VCC
4	+12V
5	+5V
6	NC

Backlight Power Selection

(4-pin BKT_PWR1)

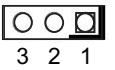
(see p.8, No. 10)

PIN	Signal Name
1	+5V
2	NC
3	BKLT_PWR
4	+Vin
5	+12V
6	NC

Digital Input / Output Power Select

(3-pin JGPIO_PWR1)

(see p.8, No. 11)



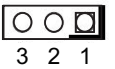
1-2 : +12V

2-3 : +5V

ATX/AT Mode Selection

(3-pin PWR_JP1)

(see p.8, No. 14)



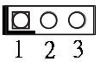
1-2 : AT Mode

2-3 : ATX Mode

MSATA_SEL1 (Disable SATAII_2)

(3-pin MSATA_SEL1)

(see p.8, No. 31)



1-2 : mPCIE

2-3 : mSATA (Disable SATAII_2)

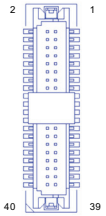
2.6 Onboard Headers and Connectors

Onboard headers and connectors are NOT jumpers. Do NOT place jumper caps over these headers and connectors. Placing jumper caps over the headers and connectors will cause permanent damage of the motherboard!

LVDS Panel Connector

(40-pin LVDS1)

(see p.8, No. 7)

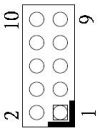


PIN	Signal Name	PIN	Signal Name
2	R_LVDD	1	R_LVDD
4	LDDC_CLK	3	+3V
6	LVDS_A_DATA0#	5	LDDC_DATA
8	GND	7	LVDS_A_DATA0
10	LVDS_A_DATA1	9	LVDS_A_DATA1#
12	LVDS_A_DATA2#	11	GND
14	GND	13	LVDS_A_DATA2
16	LVDS_A_DATA3	15	LVDS_A_DATA3#
18	LVDS_A_CLK#	17	GND
20	GND	19	LVDS_A_CLK
22	LVDS_B_DATA0	21	LVDS_B_DATA0#
24	LVDS_B_DATA1#	23	GND
26	GND	25	LVDS_B_DATA1
28	LVDS_B_DATA2	27	LVDS_B_DATA2#
30	LVDS_B_DATA3#	29	DPLVDD_EN
32	GND	31	LVDS_B_DATA3
34	LVDS_B_CLK	33	LVDS_B_CLK#
36	CON_LBKLT_EN_R	35	GND
38	LCD_BLT_VCC	37	CON_LBKLT_CTL_R
40	LCD_BLT_VCC	39	LCD_BLT_VCC

Digital Input / Output Pin Header

(10-pin JGPIO1)

(see p.8, No. 12)



PIN	Signal Name	PIN	Signal Name
1	Digital Output 0	2	Digital Input 0
3	Digital Output 1	4	Digital Input 1
5	Digital Output 2	6	Digital Input 2
7	Digital Output 3	8	Digital Input 3
9	JGPIO_PWR1	10	GND

UPS Module Power Input Connector

(2-pin DC_UPS1)

(see p.8, No. 2)

ATX Power Input/Output Connector

(2-pin INT_DC1)

(see p.8, No. 1)

SATA Power Output Connector

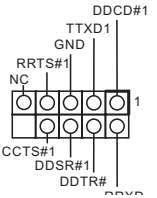
(SATA_PWR1)

(see p.8, No. 4)

RS-232 Port 4 Pin Headers

(9-pin COM1: see p.8, No. 19)

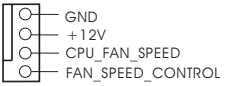
(9-pin COM2: see p.8, No. 20)



CPU Fan Connector

(4-pin CPU_FAN1)

(see p.8 No. 13)



Please connect the CPU fan cable to the connector and match the black wire to the ground pin.

Though this motherboard provides 4-Pin CPU fan (Quiet Fan) support, the 3-Pin CPU fan still can work successfully even without the fan speed control function. If you plan to connect the 3-Pin CPU fan to the CPU fan connector on this motherboard, please connect it to Pin 1-3.

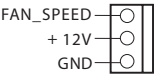
Pin 1-3 Connected

3-Pin Fan Installation

Chassis Fan Connector

(3-pin CHA_FAN1)

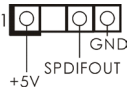
(see p.8, No. 28)



Please connect the fan cable to the fan connector and match the black wire to the ground pin.

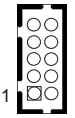
SPDIF1

(3-pin SPDIF1: see p.8, No. 25)



VGA2

(10-pin VGA2: see p.8, No. 32)

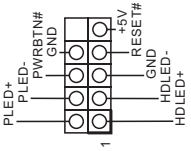


PIN	Signal Name	PIN	Signal Name
1	RED	2	GND
3	GRN	4	GND
5	BLUE	6	GND
7	HSYNC	8	VSYNC
9	DDC_CLK	10	DDC_DATA

System Panel Header

(9-pin PANEL1)

(see p.8, No. 15)



This header accommodates several system front panel functions.

Connect the power switch, reset switch and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.

PWRBTN (Power Switch):
Connect to the power switch on the chassis front panel. You may configure the way to turn off your system using the power switch.
RESET (Reset Switch):
Connect to the reset switch on the chassis front panel. Press the reset switch to restart the computer if the computer freezes and fails to perform a normal restart.
PLED (System Power LED):
Connect to the power status indicator on the chassis front panel. The LED is on when the system is operating. The LED keeps blinking when the system is in S1/S3 sleep state. The LED is off when the system is in S4 sleep state or powered off (S5).
HDLED (Hard Drive Activity LED):
Connect to the hard drive activity LED on the chassis front panel. The LED is on when the hard drive is reading or writing data.

The front panel design may differ by chassis. A front panel module mainly consists of power switch, reset switch, power LED, hard drive activity LED, speaker and etc. When connecting your chassis front panel module to this header, make sure the wire assignments and the pin assign-ments are matched correctly.

SATA2 Connectors

(SATAII_1/SATAII_2:

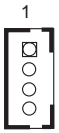
see p.8, No. 33)

These two Serial ATA2 (SATA2) connectors support SATA data cables for internal storage devices. The current SATA2 interface allows up to 3.0 Gb/s data transfer rate.

3W Audio Amp Output Wafer

(4-pin SPEAKER1)

(see p.8, No. 27)

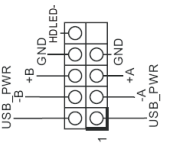


PIN	Signal Name
1	SPK L-
2	SPK L+
3	SPK R+
4	SPK R-

USB 2.0 Headers

(9-pin USB4_5: see p.8, No. 16)

(9-pin USB6_7: see p.8, No. 17)



Besides four default USB 2.0 ports on the I/O panel, there are two USB 2.0 headers on this motherboard. Each USB 2.0 header can support two USB 2.0 ports.

Chassis Intrusion Headers

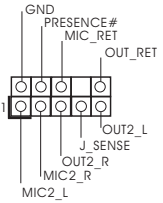
(2-pin CI1/CI2: see p.8, No. 29)

This motherboard supports CASE OPEN detection feature that detects if the chassis cover has been removed. This feature requires a chassis with chassis intrusion detection design.

Front Panel Audio Header

(9-pin HD_AUDIO1)

(see p.8 No. 26)

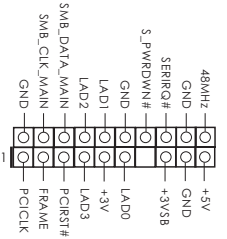


This is an interface for front panel audio cable that allows convenient connection and control of audio devices.

TPM Header

(17-pin TPM1)

(see p.8, No. 23)

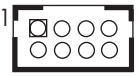


This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.

PS2_KB_MS1

(8-pin PS2_KB_MS1)

(see p.8, No. 21)

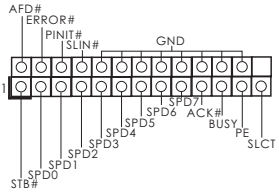


PIN	Signal Name
1	KBCLK
2	+5V
3	KBDATA
4	+5V
5	MSDATA
6	GND
7	MSCLK
8	GND

Print Port Header

(25-pin LPT1)

(see p.8, No. 22)



This is an interface for print port cable that allows convenient connection of printer devices.

DMIC1

(4-pin DMIC1)

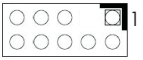
(see p.8, No. 18)

PIN	Signal Name
1	+3V
2	DMIC_DATA
3	GND
4	DMIC_CLK
5	NC

CS1

(9-pin CS1)

(see p.8, No. 24)



PIN	Signal Name
1	Watch Dog Timer
2	Ground
3	NC
4	SMB_CLK_RESUME
5	+3.3V standby
6	SMB_DATA_RESUME
7	PWRBT#
8	CIRRX
9	+5.0V standby
10	Ground

2.7 Driver Installation Guide

To install the drivers to your system, please insert the support CD to your optical drive first. Then, the drivers compatible to your system can be auto-detected and listed on the support CD driver page. Please follow the order from top to bottom to install those required drivers. Therefore, the drivers you install can work properly.

Chapter 3: UEFI SETUP UTILITY

3.1 Introduction

This section explains how to use the UEFI SETUP UTILITY to configure your system. The UEFI chip on the motherboard stores the UEFI SETUP UTILITY. You may run the UEFI SETUP UTILITY when you start up the computer. Please press <F2> or <Del> during the Power-On-Self-Test (POST) to enter the UEFI SETUP UTILITY, otherwise, POST will continue with its test routines.

If you wish to enter the UEFI SETUP UTILITY after POST, restart the system by pressing <Ctl> + <Alt> + <Delete>, or by pressing the reset button on the system chassis. You may also restart by turning the system off and then back on.

Because the UEFI software is constantly being updated, the following UEFI setup screens and descriptions are for reference purpose only, and they may not exactly match what you see on your screen.

3.1.1 UEFI Menu Bar

The top of the screen has a menu bar with the following selections:

Main	To set up the system time/date information
Advanced	To set up the advanced UEFI features
H/W Monitor	To display current hardware status
Boot	To set up the default system device to locate and load the Operating System
Security	To set up the security features
Exit	To exit the current screen or the UEFI SETUP UTILITY

Use < ← > key or < → > key to choose among the selections on the menu bar, and then press <Enter> to get into the sub screen. You can also use the mouse to click your required item.

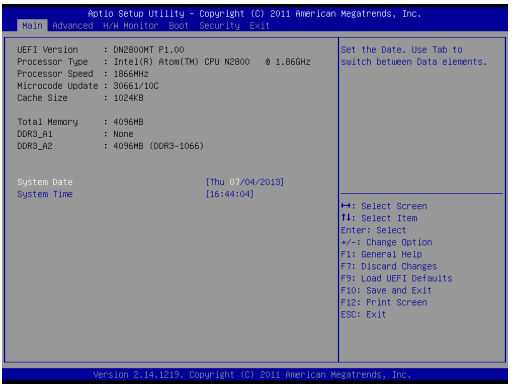
3.1.2 Navigation Keys

Please check the following table for the function description of each navigation key.

Navigation Key(s)	Function Description
← / →	Moves cursor left or right to select Screens
↑ / ↓	Moves cursor up or down to select items
+ / -	To change option for the selected items
<Enter>	To bring up the selected screen
<F1>	To display the General Help Screen
<F7>	Discard changes
<F9>	To load optimal default values for all the settings
<F10>	To save changes and exit the UEFI SETUP UTILITY
<F12>	Print screen
<ESC>	To jump to the Exit Screen or exit the current screen

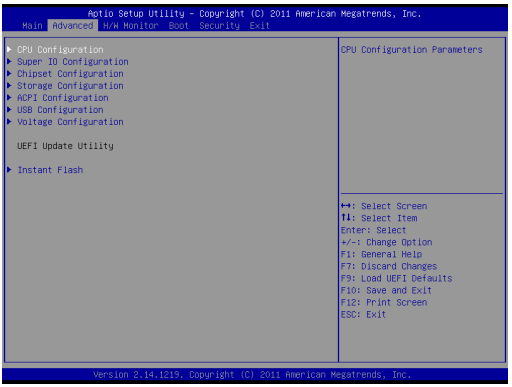
3.2 Main Screen

When you enter the UEFI SETUP UTILITY, the Main screen will appear and display the system overview.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
UEFI Version : DN2800MT P1.00
Processor Type : Intel(R) Atom(TM) CPU N2800 @ 1.86GHz
Processor Speed : 1866MHz
Microcode Update : 30661/10C
Cache Size : 1024KB
Total Memory : 4096MB
DDR3_A1 : None
DDR3_A2 : 4096MB (DDR3-1066)
System Date [Thu 07/04/2013]
System Time [16:44:04]
Set the Date. Use Tab to switch between Data elements.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

3.3 Advanced Screen

In this section, you may set the configurations for the following items: CPU Configuration, Super IO Configuration, Chipset Configuration, Storage Configuration, ACPI Configuration, USB Configuration and Voltage Configuration.



Setting wrong values in this section may cause the system to malfunction.

Instant Flash

Instant Flash is a UEFI flash utility embedded in Flash ROM. This convenient UEFI update tool allows you to update system UEFI without entering operating systems first like MS-DOS or Windows®. Just launch this tool and save the new UEFI file to your USB flash drive, floppy disk or hard drive, then you can update your UEFI only in a few clicks without preparing an additional floppy diskette or other complicated flash utility. Please be noted that the USB flash drive or hard drive must use FAT32/16/12 file system. If you execute Instant Flash utility, the utility will show the UEFI files and their respective information. Select the proper UEFI file to update your UEFI, and reboot your system after UEFI update process completes.

3.3.1 CPU Configuration

Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
CPU Configuration
Processor Speed 1866 MHz
Actual Ratio 14
Intel Hyper Threading Technology [Enabled]
No-Execute Memory Protection [Enabled]
Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and Disabled for other OS (OS not optimized for Hyper-Threading Technology).
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

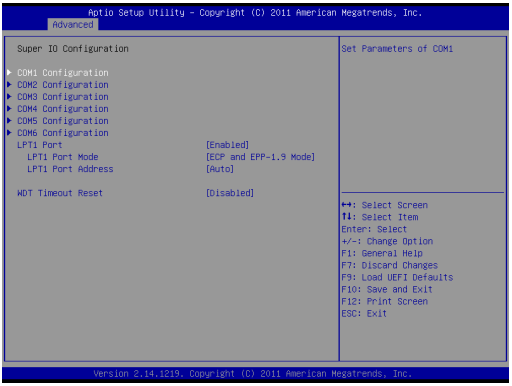
Intel Hyper Threading Technology

To enable this feature, it requires a computer system with an Intel processor that supports Hyper-Threading technology and an operating system that includes optimization for this technology, such as Microsoft® Windows® 8 / 7. Set to [Enabled] if using Microsoft® Windows® 8 / 7.

No-Excute Memory Protection

No-Execution (NX) Memory Protection Technology is an enhancement to the IA-32 Intel Architecture. An IA-32 processor with “No Execute (NX) Memory Protection” can prevent data pages from being used by malicious software to execute code.

3.3.2 Super IO Configuration



COM1 Configuration

Use this to set parameters of COM1.

COM2 Configuration

Use this to set parameters of COM2.

COM4 Configuration

Use this to set parameters of COM4.

COM5 Configuration

Use this to set parameters of COM5.

COM6 Configuration

Use this to set parameters of COM6.

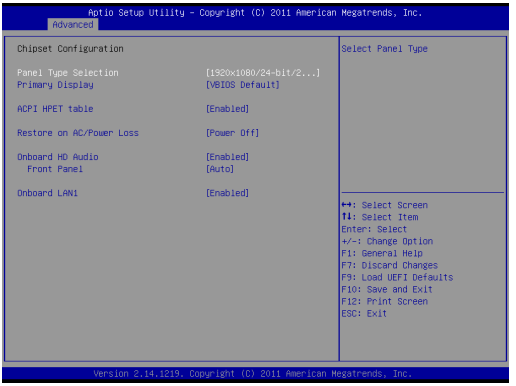
LPT1 Port Configuration

Use this set parameters of the onboard parallel port.

WDT Timeout Reset

This allows users to enable/disable the Watch Dog Timer timeout to reset system. The default value is [Disabled].

3.3.3 Chipset Configuration



Panel Type Selection

Use this to select panel type. The default value is [1366x768/18-bit/1-ch/LED].

Primary Graphics Adapter

This allows you to select the boot graphic adapter priority. The default value is [VBIOS Default].

ACPI HPET Table

Use this item to enable or disable ACPI HPET Table. The default value is [Enabled]. Please set this option to [Enabled] if you plan to use this motherboard to submit Windows® certification.

Restore on AC/Power Loss

This allows you to set the power state after an unexpected AC/power loss. If [Power Off] is selected, the AC/power remains off when the power recovers. If [Power On] is selected, the AC/power resumes and the system starts to boot up when the power recovers.

Onboard HD Audio

Select [Auto], [Enabled] or [Disabled] for the onboard HD Audio feature. If you select [Auto], the onboard HD Audio will be disabled when PCI Sound Card is plugged.

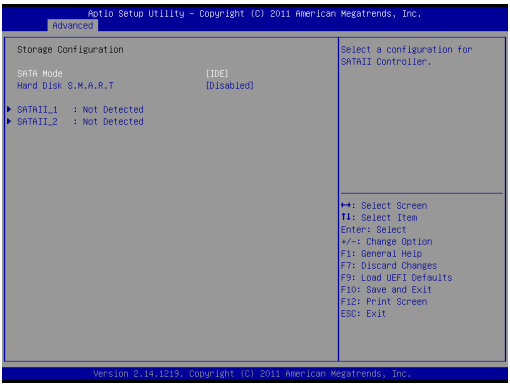
Front Panel

Select [Auto] or [Disabled] for the onboard HD Audio Front Panel.

Onboard LAN1

This allows you to enable or disable the “Onboard LAN1” feature.

3.3.4 Storage Configuration



SATA Mode

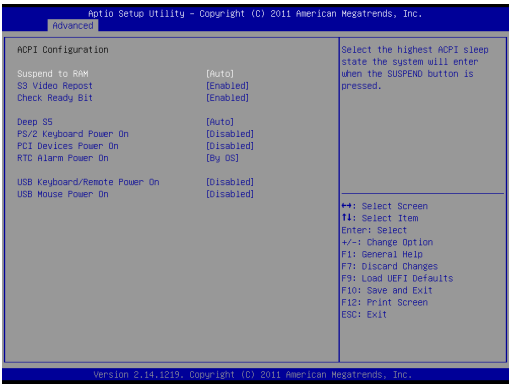
Use this to select SATA mode. Configuration options: [IDE Mode], [AHCI Mode] and [Disabled]. The default value is [IDE Mode].

AHCI (Advanced Host Controller Interface) supports NCQ and other new features that will improve SATA disk performance but IDE mode does not have these advantages.

Hard Disk S.M.A.R.T.

Use this item to enable or disable the S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) feature. Configuration options: [Disabled] and [Enabled].

3.3.5 ACPI Configuration


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Advanced
ACPI Configuration
Suspend to RAM [Auto]
S3 Video Repost [Enabled]
Check Ready Bit [Enabled]
Deep S5 [Auto]
PS/2 Keyboard Power On [Disabled]
PCI Devices Power On [Disabled]
RTC Alarm Power On [By OS]
USB Keyboard/Remote Power On [Disabled]
USB Mouse Power On [Disabled]
Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Suspend to RAM

Use this item to select whether to auto-detect or disable the Suspend-to-RAM feature. Select [Auto] will enable this feature if the OS supports it.

S3 Video Repost

Use this to enable/disable S3 Video Repost. The default value is [Enabled].

Check Ready Bit

Use this item to enable or disable the feature Check Ready Bit.

Deep S5

Use this item to enable or disable Deep S5. The default value is [Auto].

PS/2 Keyboard Power On

Use this item to enable or disable PS/2 keyboard to turn on the system from the power-soft-off mode.

PCI Devices Power On

Use this item to enable or disable PCI devices to turn on the system from the power-soft-off mode.

RTC Alarm Power On

Use this item to enable or disable RTC (Real Time Clock) to power on the system.

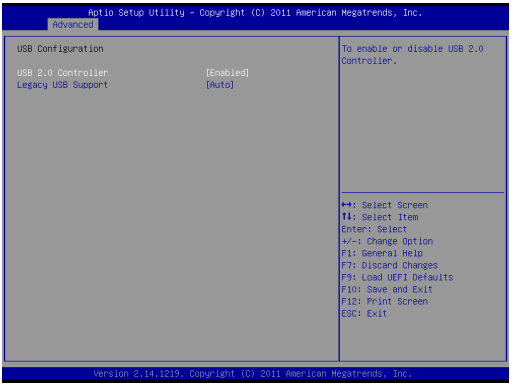
USB Keyboard/Remote Power On

Use this item to enable or disable USB Keyboard/Remote to power on the system.

USB Mouse Power On

Use this item to enable or disable USB Mouse to power on the system.

3.3.6 USB Configuration



USB 2.0 Controller

Use this item to enable or disable the use of USB 2.0 controller.

Legacy USB Support

Use this option to select legacy support for USB devices. There are four configuration options: [Enabled], [Auto], [Disabled] and [UEFI Setup Only]. The default value is [Enabled]. Please refer to below descriptions for the details of these four options:

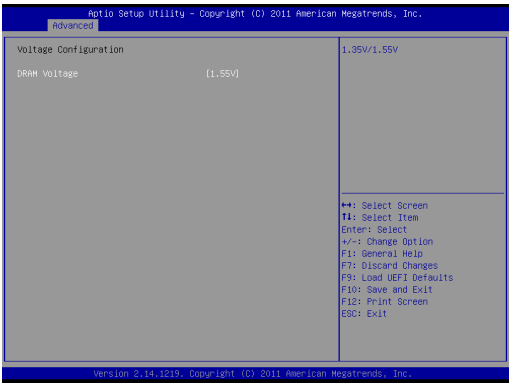
[Enabled] - Enables support for legacy USB.

[Auto] - Enables legacy support if USB devices are connected.

[Disabled] - USB devices are not allowed to use under legacy OS and UEFI setup when [Disabled] is selected. If you have USB compatibility issue, it is recommended to select [Disabled] to enter OS.

[UEFI Setup Only] - USB devices are allowed to use only under UEFI setup and Windows / Linux OS.

3.3.7 Voltage Configuration

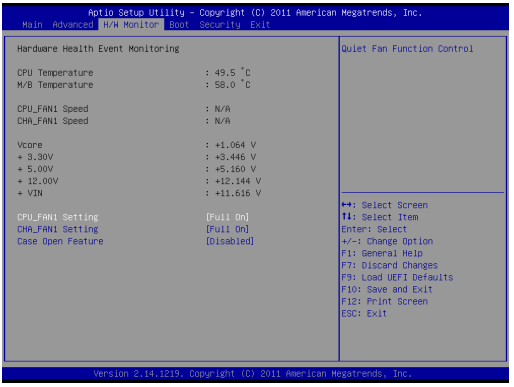


DRAM Voltage

Use this to select DRAM Voltage. The default value is [Auto].

3.4 Hardware Health Event Monitoring Screen

In this section, it allows you to monitor the status of the hardware on your system, including the parameters of the CPU temperature, motherboard temperature, CPU fan speed, chassis fan speed, and the critical voltage.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
Hardware Health Event Monitoring
CPU Temperature : 49.5 °C
M/B Temperature : 58.0 °C
CPU_FAN1 Speed : N/A
CHA_FAN1 Speed : N/A
Vcore : +1.064 V
+ 3.30V : +3.446 V
+ 5.00V : +5.160 V
+ 12.00V : +12.144 V
+ VIN : +11.616 V
CPU_FAN1 Setting [Full On]
CHA_FAN1 Setting [Full On]
Case Open Feature [Disabled]
Quiet Fan Function Control
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

CPU_FAN1 Setting

This allows you to set CPU_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

CHA_FAN1 Setting

This allows you to set CHA_FAN1's speed. Configuration options: [Full On] and [Automatic Mode]. The default value is [Full On].

Case Open Feature

This allows you to enable or disable case open detection feature. The default is value [Disabled].

Clear Status

This option appears only when the case open has been detected. Use this option to keep or clear the record of previous chassis intrusion status.

3.5 Boot Screen

In this section, it will display the available devices on your system for you to configure the boot settings and the boot priority.

Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
Boot Option Priorities
Boot Option #1 [USB: USB FLASH DR...]
Boot Option #2 [UEFI: USB FLASH D...]
USB Device BBS Priorities
Setup Prompt Timeout 1
Bootup Num-Lock [On]
Full Screen Logo [Disabled]
Boot From Onboard LAN [Disabled]
Sets the system boot order
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Setup Prompt Timeout

This shows the number of seconds to wait for setup activation key. 65535(0XFFFF) means indefinite waiting.

Bootup Num-Lock

If this item is set to [On], it will automatically activate the Numeric Lock function after boot-up.

Full Screen Logo

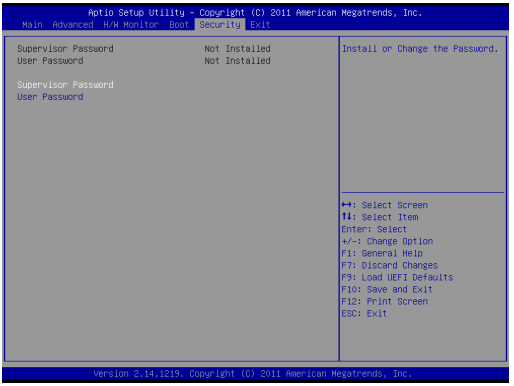
Use this item to enable or disable OEM Logo. The default value is [Enabled].

Boot From Onboard LAN

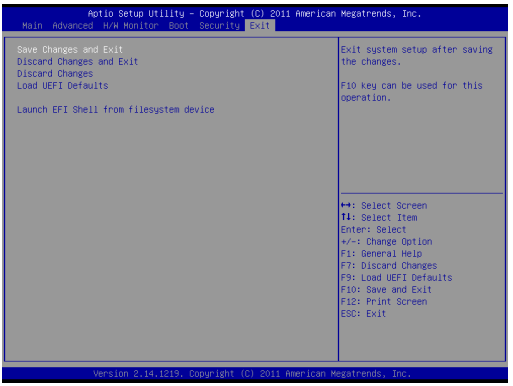
Use this item to enable or disable the Boot From Onboard LAN feature.

3.6 Security Screen

In this section, you may set, change or clear the supervisor/user password for the system.


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
Supervisor Password Not Installed
User Password Not Installed
Supervisor Password
User Password
Install or Change the Password.
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

3.7 Exit Screen


Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
Main Advanced H/W Monitor Boot Security Exit
Save Changes and Exit
Discard Changes and Exit
Discard Changes
Load UEFI Defaults
Launch EFI Shell from filesystem device
Exit system setup after saving the changes.
F10 key can be used for this operation.
↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Option
F1: General Help
F7: Discard Changes
F9: Load UEFI Defaults
F10: Save and Exit
F12: Print Screen
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Save Changes and Exit

When you select this option, it will pop-out the following message, “Save configuration changes and exit setup?” Select [OK] to save the changes and exit the UEFI SETUP UTILITY.

Discard Changes and Exit

When you select this option, it will pop-out the following message, “Discard changes and exit setup?” Select [OK] to exit the UEFI SETUP UTILITY without saving any changes.

Discard Changes

When you select this option, it will pop-out the following message, “Discard changes?” Select [OK] to discard all changes.

Load UEFI Defaults

Load UEFI default values for all the setup questions. F9 key can be used for this operation.

Launch EFI Shell from filesystem device

Attempts to Launch EFI Shell application (Shell64.efi) from one of the available filesystem devices.

Chapter 4: Software Support

4.1 Install Operating System

This motherboard supports various Microsoft® Windows® operating systems: 8 / 8 64-bit / 7 / 7 64-bit / Vista™ / Vista™ 64-bit / XP / XP 64-bit. Because motherboard settings and hardware options vary, use the setup procedures in this chapter for general reference only. Refer your OS documentation for more information.

4.2 Support CD Information

The Support CD that came with the motherboard contains necessary drivers and useful utilities that enhance the motherboard's features.

4.2.1 Running The Support CD

To begin using the support CD, insert the CD into your CD-ROM drive. The CD automatically displays the Main Menu if "AUTORUN" is enabled in your computer. If the Main Menu did not appear automatically, locate and double click on the file "ASSETUP.EXE" from the BIN folder in the Support CD to display the menus.

4.2.2 Drivers Menu

The Drivers Menu shows the available device's drivers if the system detects installed devices. Please install the necessary drivers to activate the devices.

4.2.3 Utilities Menu

The Utilities Menu shows the application software that the motherboard supports. Click on a specific item then follow the installation wizard to install it.

4.2.4 Contact Information

If you need to contact ASRock or want to know more about ASRock, you're welcome to visit ASRock's website at http://www.asrock.com; or you may contact your dealer for further information.